

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMITTAL  
FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

Application Number	09/911,821
Filing Date	07/24/2001
First Named Inventor	Pang et al.
Art Unit	1631
Examiner Name	Eric S. DeJong
Attorney Docket Number	A33723 (070050.1407)

## ENCLOSURES (Check all that apply)

<input checked="" type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> After Allowance Communication to TC
<input checked="" type="checkbox"/> Fee Attached	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Amendment/Reply	<input type="checkbox"/> Petition	<input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Power of Attorney, Revocation	<input type="checkbox"/> Status Letter
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Change of Correspondence Address	<input checked="" type="checkbox"/> Other Enclosure(s) (please Identify below):
<input type="checkbox"/> Express Abandonment Request	<input type="checkbox"/> Terminal Disclaimer	<input type="checkbox"/> Return Receipt Postcard
<input checked="" type="checkbox"/> Information Disclosure Statement	<input type="checkbox"/> Request for Refund	
<input type="checkbox"/> Certified Copy of Priority Document(s)	<input type="checkbox"/> CD, Number of CD(s) _____	
<input type="checkbox"/> Reply to Missing Parts/ Incomplete Application	<input type="checkbox"/> Landscape Table on CD	
<input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53		
	Remarks	

## SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Baker Botts LLP	Customer No.	21003
Signature			
Printed name	Chang Sik Kim		
Date	10/24/2005	Reg. No.	L0050

## CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature			
Typed or printed name	Chang Sik Kim	Date	10/24/2005

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

# FEE TRANSMITTAL for FY 2005

Effective 10/01/2004. Patent fees are subject to annual revision.

 Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$ 180)

## Complete if Known

Application Number	09/911,821
Filing Date	07/24/2001
First Named Inventor	Pang et al.
Examiner Name	Eric S. Dejong
Art Unit	1631
Attorney Docket No.	A33723 (070050.1407)

## METHOD OF PAYMENT (check all that apply)

 Check  Credit card  Money Order  Other  None

 Deposit Account:

Deposit Account Number: 02-4377  
Deposit Account Name: Baker Botts L.L.P.

The Director is authorized to: (check all that apply)

Charge fee(s) indicated below  Credit any overpayments  
 Charge any additional fee(s) or any underpayment of fee(s)  
 Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

## FEE CALCULATION

## 1. BASIC FILING FEE

Large Entity Fee Code	Small Entity Fee Code	Fee Description	Fee Paid
1001	2001	Utility filing fee	
1002	2002	Design filing fee	
1003	2003	Plant filing fee	
1004	2004	Reissue filing fee	
1005	2005	Provisional filing fee	
<b>SUBTOTAL (1)</b>		(\$ 0)	

## 2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Total Claims	Independent Claims	Multiple Dependent	Extra Claims	Fee from below	Fee Paid
			-20	= <input type="text"/> X <input type="text"/> = 0	
			-3	= <input type="text"/> X <input type="text"/> = 0	
				= <input type="text"/> = 0	

Large Entity Fee Code	Small Entity Fee Code	Fee Description
1202	2202	Claims in excess of 20
1201	2201	Independent claims in excess of 3
1203	2203	Multiple dependent claim, if not paid
1204	2204	** Reissue independent claims over original patent
1205	2205	** Reissue claims in excess of 20 and over original patent
<b>SUBTOTAL (2)</b>		(\$ 0)

\*\*or number previously paid, if greater; For Reissues, see above

## FEE CALCULATION (continued)

## 3. ADDITIONAL FEES

Large Entity Fee Code	Small Entity Fee Code	Fee Description	Fee Paid
1051	2051	Surcharge - late filing fee or oath	
1052	2052	Surcharge - late provisional filing fee or cover sheet	
1053	1053	Non-English specification	
1812	1812	For filing a request for ex parte reexamination	
1804	1804	Requesting publication of SIR prior to Examiner action	
1805	1805	Requesting publication of SIR after Examiner action	
1251	2251	Extension for reply within first month	
1252	2252	Extension for reply within second month	
1253	2253	Extension for reply within third month	
1254	2254	Extension for reply within fourth month	
1255	2255	Extension for reply within fifth month	
1401	2401	Notice of Appeal	
1402	2402	Filing a brief in support of an appeal	
1403	2403	Request for oral hearing	
1451	1451	Petition to institute a public use proceeding	
1452	2452	Petition to revive - unavoidable	
1453	2453	Petition to revive - unintentional	
1501	2501	Utility issue fee (or reissue)	
1502	2502	Design issue fee	
1503	2503	Plant issue fee	
1460	1460	Petitions to the Commissioner	
1807	1807	Processing fee under 37 CFR 1.17(q)	
1806	1806	Submission of Information Disclosure Stmt	180
8021	8021	Recording each patent assignment per property (times number of properties)	
1809	2809	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	2810	For each additional invention to be examined (37 CFR 1.129(b))	
1801	2801	Request for Continued Examination (RCE)	
1802	1802	Request for expedited examination of a design application	

Other fee (specify) \_\_\_\_\_

\*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$ 180)

## SUBMITTED BY

(Complete if applicable)

Name (Print/Type)	Chang Sik Kim	Registration No. (Attorney/Agent)	L0050	Telephone	212-408-2500
Signature				Date	10/24/2005

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

This collection of information is required by 37 CFR 1.17 and 1.27. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.



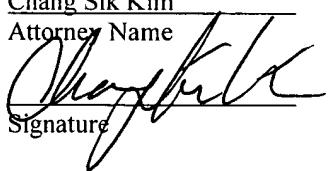
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Pang et al. Customer No.: 21003  
Serial No. : 09/911,821 Examiner : Eric S. Dejong  
Filed : 07/24/2001 Group Art Unit: 1631  
For : Computational Method For Predicting Intramolecular and Intermolecular Biopolymer Interactions

**INFORMATION DISCLOSURE STATEMENT**

I hereby certify that this paper is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

October 21, 2005  
Date of Deposit

Chang Sik Kim  
Attorney Name  
  
Signature

L0050  
Patent Reg. No.

October 21, 2005  
Date of Signature

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Pursuant to 37 C.F.R. §§ 1.56 and 1.97(c), applicants bring to the attention of the Examiner the document listed on the attached corrected Form PTO 1449 and respectfully request that the listed document be considered by the Examiner and made of record in the above-captioned application. Copies of all of the documents listed on the attached Form PTO 1449 are enclosed herewith.

10/25/2005 HLE333 00000102 09911821

01 FC:1806

180.00 0P

NY02:525977.1

This submission does not represent that a search has been made or that no better art exists and does not constitute an admission that the listed documents are material or constitute "prior art." If the Examiner applies the documents as prior art against any claim in the application and applicant determines that the cited documents do not constitute "prior art" under United States law, applicant reserves the right to present to the Office the relevant facts and law regarding the appropriate status of the documents.

Applicant further reserves the right to take appropriate action to establish the patentability of the disclosed invention over the listed documents, should the documents be applied against the claims of the present application.

The Examiner indicated that the corrected Information Disclosure Statement would be treated as being submitted after the mailing of a First Office Action. Therefore, applicants have enclosed the required fee. If any additional fee is due, or if any overpayment has been made, the Commissioner is authorized to charge any such fee or credit any overpayment, to our Deposit Account No. 02-4377.

Respectfully submitted,

BAKER BOTTS L.L.P.

By:

  
\_\_\_\_\_  
Chang Sik Kim  
Patent Office Reg. No. L0050  
30 Rockefeller Plaza  
44th Floor  
New York, NY 10012-4498  
Attorney for Applicant(s)  
212-408-2500

INFORMATION DISCLOSURE STATEMENT  
BY APPLICANT

(Use several sheets if necessary)



Applicant  
Pang et al.

Filing Date  
July 24, 2001

Group Art Unit  
1631

OTHER DOCUMENTS (including Author, Title Date, Pertinent Pages, Etc.)

		Akmaev <i>et al.</i> , "Phylogenetically enhanced statistical tools for RNA structure prediction," 2000, <i>Bioinformatics</i> 16: 501-512.
		Baker, 2000, "A surprising simplicity to protein folding," <i>Nature</i> 405:39-42.
		Bateman <i>et al.</i> , 2000, "The Pfam Protein Families Database," <i>Nucleic Acids Research</i> 28:263-266
		Jones, "Protein Structure Prediction In the Postgenomic Era," 2000, <i>Current Opinion Structural Biol.</i> 10:371-379.
		Phillips <i>et al.</i> , 2000, "Multiple Sequence Alignment in Phylogenetic Analysis," <i>Mol Phylogenet Evol.</i> 16: 317-330.
		Sanchez <i>et al.</i> , "Protein Structure Modeling for Structural Genomics," 2000, <i>Nature Structural Biology</i> Nov. 2000, Suppl. 986-990.
		Shi and Moore, "The crystal structure of yeast phenylalanine tRNA at 1.93 Angstrom resolution: A classic structure revisited," <i>RNA</i> 2000 Aug 6(8) 1091-105.
		Lockless and Ranganathan, "Evolutionary Conserved Pathways of Energetic Connectivity," 1999, <i>Science</i> 286:295-299.
		Mahalingam <i>et al.</i> , "Structural and kinetic analysis of drug resistant mutants of HIV-1 protease," <i>Eur J Biochem.</i> 1999 263:238-45.
		Olmea <i>et al.</i> , "Effective Use of Sequence Correlation and Conservation in Fold Recognition," 1999, <i>J. Mol. Biol.</i> 293: 1221-1239.
		Pollock <i>et al.</i> , "Coevolving Protein Residues: Maximum Likelihood Identification and Relationship to Structure," 1999, <i>J. Mol. Biol.</i> 287: 187-198.

NY02:525956.1

Examiner

Date Considered

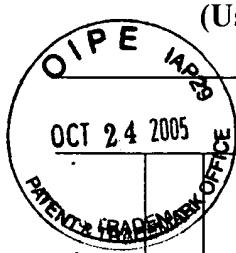
\* Examiner: Initial citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE STATEMENT  
BY APPLICANT  
(Use several sheets if necessary)

Applicant  
Pang et al.

Filing Date  
July 24, 2001

Group Art Unit  
1631



Rost, 1999, "Twilight zone of protein sequence alignments," *Protein Engineering*, 12:85-94.

Konforti *et al.*, "Ribozyme Catalysis from the Major Groove of Group II Intron Domain 5," 1998, *Mol. Cell* 1:433-441.

Puius *et al.*, "Novel Water Mediated Hydrogen Bonds as the Structural Basis for the Low Oxygen Affinity of the Blood Substitute Candidate fHb( $\alpha$ 96VAL->Trp)," 1998, *Biochemistry* 37:9258-65

Sprinzl *et al.* *Nucl. Acids Res.*, "Compilation of tRNA sequences and sequences of tRNA genes," 1998, Vol.26, No.1., 148-153.

Altschul *et al.*, 'Gapped BLAST and PSI-BLAST: a new generation of protein database search programs,' *Nucleic Acids Res.* 1997, 25:3389-4302.

Chelvanayagam *et al.*, "An Analysis of simultaneous Variation in protein structure," 1997, *Protein Engineering*. 10:307-316.

Pazos *et al.*, "Correlated Mutations Contain Information About Protein-protein Interaction," 1997, *J. Mol. Biol.* 271: 511-523.

Pollock *et al.*, "Effectiveness of correlation analysis in identifying protein residues undergoing correlated evolution," 1997, *Protein Engineering* 10:647-657.

Agresti, 1996, *An introduction to Categorical Data Analysis*, Wiley, New York., pp16-34.

Rost *et al.*, "Pitfalls of protein sequence analysis," 1996, *Curr. Opin. Biotechnol.* 7:457-461.

Singer *et al.*, "Potential Ligand-Binding Residues in Rat Olfactory Receptors Identified by Correlated Mutation Analysis," 1995, *Receptors and Channels*, 3:89:95.

Neher, 1994, "How frequent are correlated changes in families of protein sequences," *Proc. Natl. Acad. Sci. USA* 91:98-102.

**INFORMATION DISCLOSURE STATEMENT  
BY APPLICANT  
(Use several sheets if necessary)**

Applicant  
Pang et al.

Filing Date  
July 24, 2001

Group Art Unit  
1631



Gobel *et al.*, "Correlated Mutations and Residue Contacts in Proteins," 1994, *Proteins: Struct. Funct. Genet.* 18:309-317.

Shindyalov *et al.*, "Can three-dimensional contact in protein structures be predicted by analysis of correlated mutations?" 1994, *Protein Engineering*, 7:349-358.

Taylor *et al.*, "Compensating Changes in Protein Multiple Sequence Alignments," 1994, *Protein Engineering*, 7:341-348.

Agresti, "A Survey of Exact Inference for Contingency Tables," *Statist. Sci.* 7:131-153 1992.

Gutell *et al.*, 1992, "Identifying constraints on the higher-order structure of RNA: continued development and application of comparative sequence analysis methods," *Nucleic Acids Research* 21:5785-5795.

Clarkson *et al.*, "A Remark on Algorithm 643: FEXACT: An Algorithm for Performing Fisher's Exact Test in r x c Contingency Tables," *ACM Transactions on Mathematical Software* 19:484-488, 1993.

Korber *et al.*, "Covariation of Mutations in the V3 loop of human immunodeficiency virus type 1 envelope protein: An information theoretic analysis," 1993, *Proc. Natl. Acad. Sci. USA* 90:7176-7180.

Mehta and Patel, "A Network Algorithm For Performing Fisher's Exact Test in \$r \times c\$ Contingency Tables," 1983, *J. Am. Stat. Assoc.* 78:427-434.

Duffy, D.E., "A Survey of Exact Inference for Contingency Tables," 1992, *Statistical Science* 7:157-160.

Chiu and Kolodziejczak, "Inferring Consensus Structure From Nucleic Acid Sequences," 1991, *CABIOS*, 7:347-352.

Press *et al.*, 1988-1997, *Numerical Recipes in C. The art of Scientific Computing*. Cambridge University Press, (www.nr.com) Section 6.0-6.2 p212-222, Section 14.4 p628-636.

Altschuh *et al.*, "Correlation of Co-ordinated Amino Acid Substitutions with Function in Viruses Related to Tobacco Mosaic Virus," 1987, *J. Mol. Biol.* 193:693-707.

NY02:525956.1

3

Examiner

Date Considered

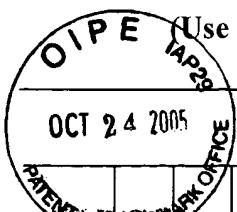
\* Examiner: Initial citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE STATEMENT  
BY APPLICANT  
Use several sheets if necessary)

Applicant  
Pang et al.

Filing Date  
July 24, 2001

Group Art Unit  
1631



Koopmans, 1987, *Introduction to Contemporary Statistical Methods*, Duxbury Press, Boston Chapter 2, p35-69.

Efron, "Nonparametric estimates of standard error: The jackknife, the bootstrap and other methods," 1981, *Biometrika*, 68:589-599.

Patefield, "An Efficient Method of Generating Random R X C Tables With Given Row and Column Totals," *Applied Statistics*, 1981, 30:91-97.

Cochran, "Some Methods For Strengthening The Common X<sup>2</sup> Tests," 1954, *Biometrics* 10:417-451.

Cramer, 1946, *Mathematical Methods of Statistics*, Princeton University Press, Princeton, p416-452.